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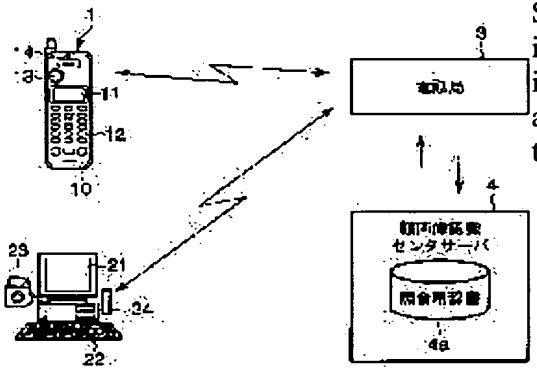
(54) SYSTEM AND METHOD FOR RECOGNIZING FACE IMAGE

(57)Abstract:
PROBLEM TO BE SOLVED: To easily and objectively recognize which well-known person a user looks most like among his/her favorite category.
SOLUTION: The well-known person having the face image most similar to the face image taken by the user in the category designated by the user is determined, and the face of the well-known person is provided to the user.



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TECHNICAL FIELD

[The technical field to which invention belongs] This invention relates to the face image recognition method used for the face image recognition system which judges the similarity of the face image sent by the user using face recognition technology, and the face image registered beforehand, and this face image recognition system.

PRIOR ART

[Description of the Prior Art] Conventionally, in the usual everyday conversation, it makes into subject in many cases who to resemble which famous men's (an actor, a sport player, a singer, politician, etc.) etc. person. For example, when he explains of what kind of looks he is a person by the telephone, a letter, etc., a famous man is made an inquiry and their looks are explained by which famous man he resembles in many cases. Thus, when themselves or the 3rd person explains which famous man is resembled, based on decision of human beings, such as him or a friend, it is explaining who resembles what kind of famous man.

[0003] However, when who judges what kind of famous man is resembled with human being's sensation, there is no basis and it is unreliable. For this reason, the service which judges what kind of famous man is resembled objective is demanded. Moreover, he may be offended when a most alike famous man does not suit his liking. For this reason, the service which judges how much the famous man who thinks that the famous man who resembles him most out of the famous man of a specific genre according to his hope is judged, or he is alike is resembled is demanded.

EFFECT OF THE INVENTION

[Effect of the Invention] As explained in full detail above, according to this invention, the face image recognition system and the face image recognition method of recognizing objective of what kind of person the face photoed among the persons of the genre specified by a user resembles the face can be offered.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] Since it has judged who resembles what kind of person with human being's sensation as described above and is unreliable It is what what can be recognized objective is requested [of what kind of person the face resembles the face, and] as. It aims at offering the face image recognition system and the face image recognition method of recognizing objective of what kind of person the face resembles the face among the persons of the genre specified by a user.

MEANS

[Means for Solving the Problem] A storage means by which characteristic quantity of people's face according to which a face image recognition system of this invention is classified into two or more groups is memorized beforehand, An assignment means to specify a group of those who consider as an object of a similarity judging with a photography means to photo a user's face image, and a face image photoed with this photography means, A calculation means to compute similarity with characteristic quantity of a face of all men belonging to a group specified by the above-mentioned assignment means memorized by a face image photoed by the above-mentioned photography means, and the above-mentioned storage means, Based on similarity computed by this calculation means, it has a judgment means to judge a man of a face image photoed with the above-mentioned photography means, and a most similar face, and a guidance means to guide a person who judged with this judgment means.

[0006] In what has server equipment which a face image recognition system of this invention can communicate [of a user terminal with an available user, and the above-mentioned user terminal] the above-mentioned user terminal An assignment means to specify a group of those who consider as an object of a similarity judging with a photography means to photo a user's face image, and a face image photoed with this photography means, It has a guidance means to guide a person judged by the above-mentioned server equipment when a face resembled most a face image photoed with the above-mentioned photography means among persons belonging to a group specified by this assignment means. A storage means by which characteristic quantity of people's face according to which the above-mentioned server equipment is classified into two or more groups is memorized beforehand, A calculation means to compute similarity with characteristic quantity of a face of all men belonging to a group specified by assignment means of the above-mentioned user terminal memorized by a face image photoed by photography means of the above-mentioned user terminal, and the above-mentioned storage means, Based on similarity computed by this calculation means, it has a judgment means to judge a man of a face image photoed with the above-mentioned photography means, and a most similar face.

[0007] In a method by which a face image recognition method of this invention is used for a face image recognition system which has a storage means by which characteristic quantity of people's face according to which it is classified into two or more groups is memorized beforehand An assignment production process which specifies a group of those who consider as an object of a similarity judging with a photography production process which photos a user's face image, and a face image photoed according to this photography production process, A calculation production process which computes similarity with characteristic quantity of a face of all men belonging to a group specified according to the above-mentioned assignment production process memorized by a face image photoed by the above-mentioned photography production process and the above-mentioned storage means, Based on similarity computed by this calculation production process, it has a judgment production process which judges a man of a face image photoed according to the above-mentioned photography production process, and a most similar face, and a guidance production process to which it shows a person who judged according to this judgment production process.

[0008]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of this invention is explained with reference to a drawing. Drawing 1 is drawing showing the configuration of the whole face image recognition system roughly. As shown in drawing 1 , a face image recognition system consists of a personal digital assistant (user terminal) 1, a personal computer (user terminal) 2, a dial office 3, and a face image recognition center server (server equipment) 4. The communication link with the face image recognition center server 4 is

possible for the above-mentioned personal digital assistant 1 and a personal computer 2 through a dial office 3. The above-mentioned face image recognition center server 4 has dictionary 4a for collating as a data base with which the characteristic quantity of faces, such as a famous man, is memorized.

[0009] The above-mentioned personal digital assistant 1 is constituted by the portable terminal equipment of a cellular phone etc. The whole is controlled by the control section by which the above-mentioned personal digital assistant 1 is formed in the main part 10 of a personal digital assistant and which is not illustrated. Moreover, as this personal digital assistant 1 is shown in drawing 1 , the display 11, the control unit 12, the camera 13, and the antenna 14 grade are prepared in the main part 10 of a personal digital assistant. The above-mentioned display 11 is constituted by the liquid crystal display etc. The actuation guidance to a user etc. is displayed on this display 11. The above-mentioned control unit 12 is constituted by keys, such as a ten key. In this control unit 12, a user inputs information, such as a setup of a mode of operation, and the telephone number of a transmission place. Moreover, the above-mentioned camera 13 is constituted by the digital camera etc. Face images, such as a user, are photoed with the above-mentioned camera 13. In case the above-mentioned antenna 14 performs the communication link with the above-mentioned face image recognition center server through the above-mentioned dial office 3, it transmits and receives wireless data with the above-mentioned dial office 3.

[0010] The control section from which the above-mentioned personal computer 2 is constituted by memory, such as RAM, ROM, and HDD, the various processing sections, CPU, etc. in a main part 20 is prepared. The whole is controlled by the control section by which this personal computer 2 is formed in the main part 20 and which is not illustrated. Moreover, as this personal computer 2 is shown in drawing 1 , the display 21, the control unit 22, the camera 23, and the modem 24 grade are connected to the main part 20. The above-mentioned display 21 is constituted by a cathode ray tube display or the liquid crystal display. The actuation guidance to a user etc. is displayed on this display 21. The above-mentioned control unit 22 is constituted by a keyboard or the mouse. In this control unit 22, a user inputs a setup of a mode of operation etc. Moreover, the above-mentioned camera 23 is constituted by the digital camera etc. Face images, such as a user, are photoed with the above-mentioned camera 23. The above-mentioned modem 24 performs the communication link with the above-mentioned face image recognition center server 4 through a public line and the above-mentioned dial office 3.

[0011] Next, the outline configuration of the above-mentioned face image recognition center server 4 is explained. Drawing 2 is the block diagram showing the outline configuration of the above-mentioned face image recognition center server 4. As shown in drawing 2 , the above-mentioned face image recognition center server 4 has the main control section 31, the storage section 32, the communication link interface 33, the similarity calculation section 34, and dictionary 4a for collating. The above-mentioned main control section 31 manages control of the face image recognition center server 4 whole. The above-mentioned storage section 32 consists of memory which memorizes temporarily data of the memory a control program etc. is remembered to be, and a working-level month. The above-mentioned communication link interface 33 is an interface which performs the communication link with the above-mentioned personal digital assistant 1 or the above-mentioned personal computer 2 through the above-mentioned dial office 3. The above-mentioned similarity calculation section 34 performs calculation processing of the similarity of the face image supplied from the above-mentioned personal digital assistant 1 or the personal computer 2, and the face image with which the characteristic quantity of a face is beforehand registered into the above-mentioned dictionary for collating. The above-mentioned dictionary 4a for collating is the storage section into which the characteristic quantity of the face to two or more famous men's etc. person is

registered beforehand. Moreover, the characteristic quantity of a face is classified into every [of the famous man concerned] genre (group), and is memorized by above-mentioned dictionary 4for collating a.

[0012] Drawing 3 is drawing showing the example of a configuration of the above-mentioned dictionary 4a for collating. In the example shown in drawing 3 , two or more dictionaries drawn up for every genre in dictionary 4a for collating are memorized. For example, in drawing 3 , the dictionary which memorized the face data of the singer in his teens, the dictionary which memorized the face data of the actress in her teens, the dictionary which memorized the face data of the beauty in the world, the dictionary which memorized the face data of the baseball player in his teens, the dictionary which memorized the face data of the soccer player in his teens are memorized by dictionary 4a for collating. Thus, when a dictionary is drawn up for every genre, at the time of collating of face data, the dictionary corresponding to the genre chosen as the user is chosen, and collating with the face image which the user photoed is performed at it.

[0013] Moreover, although the example shown in drawing 3 explained the case where a dictionary was drawn up for every genre, the inside of dictionary 4a for collating is searched by making into retrieval conditions the genre chosen as the user at the time of collating of face data, and you may make it elect the famous man belonging to a genre each time. In this case, corresponding to each famous man's face data, the various data (for example, a name, sex, age, a hometown, the activity field, an affiliation group (team) name, etc.) about each famous man is memorized to dictionary 4for collating a, and all the famous men that are in agreement with conditions based on the various conditions specified by a user are elected as it in the case of a similarity judging. Thereby, it is not necessary to draw up two or more dictionaries for every genre, and a user can specify a genre in the combination of various conditions.

[0014] Next, actuation of the face image recognition system constituted as mentioned above is explained. Drawing 4 is a flow chart for explaining the actuation which judges similarity with the face of the famous man who the characteristic quantity of a face is memorized by the face and the above-mentioned dictionary 4a for collating which were photoed with the personal digital assistant 1 or the personal computer 2, and is in them, and notifies a famous man with the highest similarity to a personal digital assistant 1 or a personal computer 2. By drawing 4 , after photoing a face, actuation in case a user specifies a famous man's genre which carries out the candidate for collating is shown. Although the case where a personal digital assistant 1 is used is explained here, the same is said of the case where a personal computer 2 is used.

[0015] First, a user photos a face image with a camera 13 (step S1). The photoed image is captured in the main part of a personal digital assistant. The control section of a personal digital assistant 1 performs processing (extract processing of a face image) which extracts a face image from the captured image (step S2 - S4). Here, a camera 13 shall photo an image continuously.

[0016] In this case, the control section of a personal digital assistant 1 detects a mobile from the image photoed continuously (step S2). A mobile is detected by taking the difference of the image read before and the image read into the degree, i.e., the difference of the image of order. If a mobile is detected, the mobile which the control section of a personal digital assistant 1 detected will judge whether it has predetermined magnitude (step S3). When the mobile detected by this decision is predetermined magnitude, the control section of a personal digital assistant 1 extracts a face image by detecting the portion appropriate for a person's face from the image of a mobile (step S4). Moreover, when the detected mobile does not have predetermined magnitude, or when a face image is not able to be extracted, the control section of a personal digital assistant 1 performs extract processing of return and a face image again to the above-mentioned step S1.

[0017] If a face image is extracted by the above-mentioned extract processing, the control

section of a personal digital assistant 1 will choose the genre to which the famous man as for whom a similarity judging does an object belongs (step S5). Based on the selection screen made into the above-mentioned display 11, it opts for selection of this genre by actuation by a user's control unit 12.

[0018] For example, when a user specifies a pro-baseball player as a genre, further, also in a pro-baseball player, a user can choose a favorite professional baseball team now, and gets. It becomes possible to notify the famous man who is alike in the range which a user is not provided with a result which a user says by this resembles a disagreeable professional baseball team's player also in a pro-baseball player, and met the request of a user.

[0019] The user who chose the genre as mentioned above checks the extracted face image and the selected genre, and directs a Request to Send. Thereby, the control section of a personal digital assistant 1 transmits the selected genre and the extracted face image to the face image recognition center server 4 (step S6).

[0020] The main control section 31 of the face image recognition center server 4 will extract the characteristic quantity (face data) of a face from the received face image, if the information and the face image in which the genre from the above-mentioned personal digital assistant 1 is shown are received (step S7) (step S8). Moreover, the main control section 31 elects the face data of the famous man belonging to the genre which received from the above-mentioned personal digital assistant 1 from above-mentioned dictionary 4for collating a (step S9). Here, when the dictionary corresponding to the genre which the user chose into the above-mentioned dictionary 4a for collating is formed, the main control section 31 elects the dictionary corresponding to the genre which the user chose as a dictionary for collating.

[0021] When the face data of the famous man of a genre who extracted face data from the face image received from the above-mentioned personal digital assistant 1, and received is elected from above-mentioned dictionary 4for collating a, the main-control section 31 performs the processing (similarity calculation processing) which computes the similarity of the face data extracted from the received face image, and the face data of all the famous men that elected from dictionary 4for collating a (step S10).

[0022] If the similarity to all the famous men of the genre concerned is computed by this similarity calculation processing, the main control section 31 will judge the famous man who became the maximum similarity (step S11). The famous man of the face which resembles most the face image photoed with the above-mentioned personal digital assistant 1 in the genre concerned by this judgment is judged. This judgment result is transmitted to the personal digital assistant 1 concerned (step S12).

[0023] When this judgment result is received (step S13), the control section of the personal digital assistant 1 concerned is displayed on a display 11 as a famous man to whom the face resembles most the face image which photoed the information which shows the famous man who received (step S14). Thereby, a user is the famous man of the selected genre and a most alike famous man can recognize someone.

[0024] Moreover, in the example of operation shown in above-mentioned drawing 4 , after photoing the face image, the genre was chosen, but after choosing a genre previously, it may be made to collate by photoing a face image. Moreover, when a user chooses other genres continuously, you may make it judge the famous man who is most alike in other genres, when a judgment result is displayed at the above-mentioned step S14. In this case, it may be made to perform a similarity judging using a face image [finishing / photography], and a face image is newly restarted and it may be made to perform a similarity judging.

[0025] Moreover, although it was made to provide for a user in the example of operation shown in drawing 4 by making into a judgment result whether for the face image which the user photoed to resemble most the face of the famous man of the genre specified by a user, the face image which the user photoed makes it a judgment result which to resemble the specific

famous man, and you may make it provide for use. In this case, a user specifies not a genre but a specific famous man in the case of genre selection. On the other hand, in the face image recognition center server 4, similarity with the characteristic quantity of a famous man's face specified by the face image which the user photoed, and a user is computed, and a user is provided with the computed similarity by data, such as percentage. Thereby, a user becomes [which resembles the famous man of specification / the photoed face image /, and] possible [recognizing objective].

[0026] As mentioned above, the famous man of the face which resembles most the face image which the user photoed in the genre specified by a user is judged, and it is made to provide to a user with the gestalt of this operation. Thereby, in a favorite genre, a user recognizes simplicity and objective whether it is most alike to which famous man, and can carry out the thing of it to. Moreover, since the judgment result of making it the famous man of the genre which a user does not desire does not make a user provide, the famous man who is alike among the ranges in alignment with a request of a user can be offered because a user specifies a genre.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] Drawing showing the outline configuration of the face image recognition system concerning the gestalt of implementation of this invention.

[Drawing 2] The block diagram showing the outline configuration of the face image recognition center server of drawing 1 .

[Drawing 3] Drawing showing the example of a configuration of the dictionary for collating in a face image recognition center server.

[Drawing 4] The flow chart for explaining actuation of this face image recognition system.

[Description of Notations]

1 -- A personal digital assistant (user terminal), 2 -- Personal computer (user terminal), 3 -- A dial office, 4 -- A face image recognition center server (server equipment), 4a -- The dictionary for collating (storage means), 11 21 [-- The main control section (a judgment means, election means), 32 / -- The storage section, 33 / -- A communication link interface, 34 / -- Similarity calculation section (calculation means)] -- 12 A display (guidance means), 22 -- 13 A control unit (assignment means), 23 -- A camera (photography means), 31

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the face image recognition method used for the face image recognition system which judges the similarity of the face image sent by the user using face recognition technology, and the face image registered beforehand, and this face image recognition system.

[0002]

[Description of the Prior Art] Conventionally, in the usual everyday conversation, it makes into subject in many cases who to resemble which famous men's (an actor, a sport player, a singer, politician, etc.) etc. person. For example, when he explains of what kind of looks he is a person by the telephone, a letter, etc., a famous man is made an inquiry and their looks are explained by which famous man he resembles in many cases. Thus, when themselves or the

3rd person explains which famous man is resembled, based on decision of human beings, such as him or a friend, it is explaining who resembles what kind of famous man.
[0003] However, when who judges what kind of famous man is resembled with human being's sensation, there is no basis and it is unreliable. For this reason, the service which judges what kind of famous man is resembled objective is demanded. Moreover, he may be offended when a most alike famous man does not suit his liking. For this reason, the service which judges how much the famous man who thinks that the famous man who resembles him most out of the famous man of a specific genre according to his hope is judged, or he is alike is resembled is demanded.
[0004]
[Problem(s) to be Solved by the Invention] Since it has judged who resembles what kind of person with human being's sensation as described above and is unreliable It is what what can be recognized objective is requested [of what kind of person the face resembles the face, and] as. It aims at offering the face image recognition system and the face image recognition method of recognizing objective of what kind of person the face resembles the face among the persons of the genre specified by a user.
[0005]
[Means for Solving the Problem] A storage means by which characteristic quantity of people's face according to which a face image recognition system of this invention is classified into two or more groups is memorized beforehand, An assignment means to specify a group of those who consider as an object of a similarity judging with a photography means to photo a user's face image, and a face image photoed with this photography means, A calculation means to compute similarity with characteristic quantity of a face of all men belonging to a group specified by the above-mentioned assignment means memorized by a face image photoed by the above-mentioned photography means, and the above-mentioned storage means, Based on similarity computed by this calculation means, it has a judgment means to judge a man of a face image photoed with the above-mentioned photography means, and a most similar face, and a guidance means to guide a person who judged with this judgment means.
[0006] In what has server equipment which a face image recognition system of this invention can communicate [of a user terminal with an available user, and the above-mentioned user terminal] the above-mentioned user terminal An assignment means to specify a group of those who consider as an object of a similarity judging with a photography means to photo a user's face image, and a face image photoed with this photography means, It has a guidance means to guide a person judged by the above-mentioned server equipment when a face resembled most a face image photoed with the above-mentioned photography means among persons belonging to a group specified by this assignment means. A storage means by which characteristic quantity of people's face according to which the above-mentioned server equipment is classified into two or more groups is memorized beforehand, A calculation means to compute similarity with characteristic quantity of a face of all men belonging to a group specified by assignment means of the above-mentioned user terminal memorized by a face image photoed by photography means of the above-mentioned user terminal, and the above-mentioned storage means, Based on similarity computed by this calculation means, it has a judgment means to judge a man of a face image photoed with the above-mentioned photography means, and a most similar face.
[0007] In a method by which a face image recognition method of this invention is used for a face image recognition system which has a storage means by which characteristic quantity of people's face according to which it is classified into two or more groups is memorized beforehand An assignment production process which specifies a group of those who consider as an object of a similarity judging with a photography production process which photos a

user's face image, and a face image photoed according to this photography production process, A calculation production process which computes similarity with characteristic quantity of a face of all men belonging to a group specified according to the above-mentioned assignment production process memorized by a face image photoed by the above-mentioned photography production process and the above-mentioned storage means, Based on similarity computed by this calculation production process, it has a judgment production process which judges a man of a face image photoed according to the above-mentioned photography production process, and a most similar face, and a guidance production process to which it shows a person who judged according to this judgment production process.

[0008]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of this invention is explained with reference to a drawing. Drawing 1 is drawing showing the configuration of the whole face image recognition system roughly. As shown in drawing 1 , a face image recognition system consists of a personal digital assistant (user terminal) 1, a personal computer (user terminal) 2, a dial office 3, and a face image recognition center server (server equipment) 4. The communication link with the face image recognition center server 4 is possible for the above-mentioned personal digital assistant 1 and a personal computer 2 through a dial office 3. The above-mentioned face image recognition center server 4 has dictionary 4a for collating as a data base with which the characteristic quantity of faces, such as a famous man, is memorized.

[0009] The above-mentioned personal digital assistant 1 is constituted by the portable terminal equipment of a cellular phone etc. The whole is controlled by the control section by which the above-mentioned personal digital assistant 1 is formed in the main part 10 of a personal digital assistant and which is not illustrated. Moreover, as this personal digital assistant 1 is shown in drawing 1 , the display 11, the control unit 12, the camera 13, and the antenna 14 grade are prepared in the main part 10 of a personal digital assistant. The above-mentioned display 11 is constituted by the liquid crystal display etc. The actuation guidance to a user etc. is displayed on this display 11. The above-mentioned control unit 12 is constituted by keys, such as a ten key. In this control unit 12, a user inputs information, such as a setup of a mode of operation, and the telephone number of a transmission place. Moreover, the above-mentioned camera 13 is constituted by the digital camera etc. Face images, such as a user, are photoed with the above-mentioned camera 13. In case the above-mentioned antenna 14 performs the communication link with the above-mentioned face image recognition center server through the above-mentioned dial office 3, it transmits and receives wireless data with the above-mentioned dial office 3.

[0010] The control section from which the above-mentioned personal computer 2 is constituted by memory, such as RAM, ROM, and HDD, the various processing sections, CPU, etc. in a main part 20 is prepared. The whole is controlled by the control section by which this personal computer 2 is formed in the main part 20 and which is not illustrated. Moreover, as this personal computer 2 is shown in drawing 1 , the display 21, the control unit 22, the camera 23, and the modem 24 grade are connected to the main part 20. The above-mentioned display 21 is constituted by a cathode ray tube display or the liquid crystal display. The actuation guidance to a user etc. is displayed on this display 21. The above-mentioned control unit 22 is constituted by a keyboard or the mouse. In this control unit 22, a user inputs a setup of a mode of operation etc. Moreover, the above-mentioned camera 23 is constituted by the digital camera etc. Face images, such as a user, are photoed with the above-mentioned camera 23. The above-mentioned modem 24 performs the communication link with the above-mentioned face image recognition center server 4 through a public line and the above-mentioned dial office 3.

[0011] Next, the outline configuration of the above-mentioned face image recognition center

server 4 is explained. Drawing 2 is the block diagram showing the outline configuration of the above-mentioned face image recognition center server 4. As shown in drawing 2 , the above-mentioned face image recognition center server 4 has the main control section 31, the storage section 32, the communication link interface 33, the similarity calculation section 34, and dictionary 4a for collating. The above-mentioned main control section 31 manages control of the face image recognition center server 4 whole. The above-mentioned storage section 32 consists of memory which memorizes temporarily data of the memory a control program etc. is remembered to be, and a working-level month. The above-mentioned communication link interface 33 is an interface which performs the communication link with the above-mentioned personal digital assistant 1 or the above-mentioned personal computer 2 through the above-mentioned dial office 3. The above-mentioned similarity calculation section 34 performs calculation processing of the similarity of the face image supplied from the above-mentioned personal digital assistant 1 or the personal computer 2, and the face image with which the characteristic quantity of a face is beforehand registered into the above-mentioned dictionary for collating. The above-mentioned dictionary 4a for collating is the storage section into which the characteristic quantity of the face to two or more famous men's etc. person is registered beforehand. Moreover, the characteristic quantity of a face is classified into every [of the famous man concerned] genre (group), and is memorized by above-mentioned dictionary 4for collating a.

[0012] Drawing 3 is drawing showing the example of a configuration of the above-mentioned dictionary 4a for collating. In the example shown in drawing 3 , two or more dictionaries drawn up for every genre in dictionary 4a for collating are memorized. For example, in drawing 3 , the dictionary which memorized the face data of the singer in his teens, the dictionary which memorized the face data of the actress in her teens, the dictionary which memorized the face data of the beauty in the world, the dictionary which memorized the face data of the baseball player in his teens, the dictionary which memorized the face data of the soccer player in his teens are memorized by dictionary 4a for collating. Thus, when a dictionary is drawn up for every genre, at the time of collating of face data, the dictionary corresponding to the genre chosen as the user is chosen, and collating with the face image which the user photoed is performed at it.

[0013] Moreover, although the example shown in drawing 3 explained the case where a dictionary was drawn up for every genre, the inside of dictionary 4a for collating is searched by making into retrieval conditions the genre chosen as the user at the time of collating of face data, and you may make it elect the famous man belonging to a genre each time. In this case, corresponding to each famous man's face data, the various data (for example, a name, sex, age, a hometown, the activity field, an affiliation group (team) name, etc.) about each famous man is memorized to dictionary 4for collating a, and all the famous men that are in agreement with conditions based on the various conditions specified by a user are elected as it in the case of a similarity judging. Thereby, it is not necessary to draw up two or more dictionaries for every genre, and a user can specify a genre in the combination of various conditions.

[0014] Next, actuation of the face image recognition system constituted as mentioned above is explained.

CLAIMS

[Claim 1] A face image recognition system characterized by providing the following A storage means by which characteristic quantity of people's face according to which it is classified into two or more groups is memorized beforehand A photography means to photo a user's face image An assignment means to specify a group of those who consider as an object of a similarity judging with a face image photoed with this photography means The judgment

means judge the man of a most similar face based on the similarity computed by calculation means compute similarity with the characteristic quantity of the face of all the men belonging to the group specified by the above-mentioned assignment means memorized by the face image photoed by the above-mentioned photography means, and the above-mentioned storage means, and this calculation means to be the face image which photoed with the above-mentioned photography means, and the guidance means show around the man judged by this judgment means

[Claim 2] A face image recognition system characterized by providing the following A storage means by which various data is beforehand memorized corresponding to characteristic quantity of two or more men's face A photography means to photo a user's face image An assignment means to specify people's conditions made into an object of a similarity judging with a face image photoed with this photography means An election means to elect all men corresponding to conditions specified by this assignment means based on various data memorized by the above-mentioned storage means, A calculation means to compute similarity of a face image photoed by the above-mentioned photography means, and characteristic quantity of a face of all men that elected with the above-mentioned election means, A judgment means to judge a man of a most similar face based on similarity computed by this calculation means to be the face image photoed with the above-mentioned photography means, and a guidance means to guide a person who judged with this judgment means

[Claim 3] A face image recognition system which has a user terminal with an available user characterized by providing the following, and server equipment which can communicate the above-mentioned user terminal The above-mentioned user terminal is a photography means to photo a user's face image. An assignment means to specify a group of those who consider as an object of a similarity judging with a face image photoed with this photography means A guidance means to guide a person judged by the above-mentioned server equipment when a face resembled most a face image photoed with the above-mentioned photography means among persons belonging to a group specified by this assignment means A storage means by which characteristic quantity of people's face according to which it **** and the above-mentioned server equipment is classified into two or more groups is memorized beforehand, A calculation means to compute similarity with characteristic quantity of a face of all men belonging to a group specified by assignment means of the above-mentioned user terminal memorized by a face image photoed by photography means of the above-mentioned user terminal, and the above-mentioned storage means, A judgment means to judge a man of a most similar face based on similarity computed by this calculation means to be the face image photoed with the above-mentioned photography means

[Claim 4] A face image recognition system which has a user terminal with an available user characterized by providing the following, and server equipment which can communicate the above-mentioned user terminal The above-mentioned user terminal is a photography means to photo a user's face image. An assignment means to specify people's conditions made into an object of a similarity judging with a face image photoed with this photography means A guidance means to guide a person judged by the above-mentioned server equipment when a face resembled most a face image photoed with the above-mentioned photography means among all men corresponding to conditions specified by this assignment means A storage means by which **** and, as for the above-mentioned server equipment, various data is beforehand memorized corresponding to characteristic quantity of two or more men's face, An election means to elect all men corresponding to conditions specified by assignment means of the above-mentioned user terminal based on various data memorized by the above-mentioned storage means, A calculation means to compute similarity of a face image photoed by photography means of the above-mentioned user terminal, and characteristic quantity of a

face of all men that elected with the above-mentioned election means, A judgment means to judge a man of a most similar face based on similarity computed by this calculation means to be the face image photoed with the above-mentioned photography means

[Claim 5] A face image recognition method used for a face image recognition system which has a storage means by which characteristic quantity of people's face which is characterized by providing the following, and according to which it is classified into two or more groups is memorized beforehand A photography production process which photos a user's face image An assignment production process which specifies a group of those who consider as an object of a similarity judging with a face image photoed according to this photography production process A calculation production process which computes similarity with characteristic quantity of a face of all men belonging to a group specified according to the above-mentioned assignment production process memorized by a face image photoed by the above-mentioned photography production process and the above-mentioned storage means A judgment production process which judges a man of a most similar face based on similarity computed by this calculation production process to be the face image photoed according to the above-mentioned photography production process, and a guidance production process to which it shows a person who judged according to this judgment production process

[Claim 6] A face image recognition method used for a face image recognition system which has a storage means characterized by providing the following by which various data is beforehand memorized corresponding to characteristic quantity of two or more men's face A photography production process which photos a user's face image An assignment production process which specifies people's conditions made into an object of a similarity judging with a face image photoed according to this photography production process An election production process which elects all men corresponding to conditions specified according to this assignment production process based on various data memorized by the above-mentioned storage means The judgment production process which judges the man of a most similar face based on similarity computed by a calculation production process which computes similarity of a face image photoed by the above-mentioned photography production process and characteristic quantity of a face of all men that elected according to the above-mentioned election production process, and this calculation production process to be the face image photoed according to the above-mentioned photography production process, and the guidance production process to which it shows the person who judged according to this judgment production process

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審査請求　未請求　請求項の数６　ＯＬ　（全７頁）

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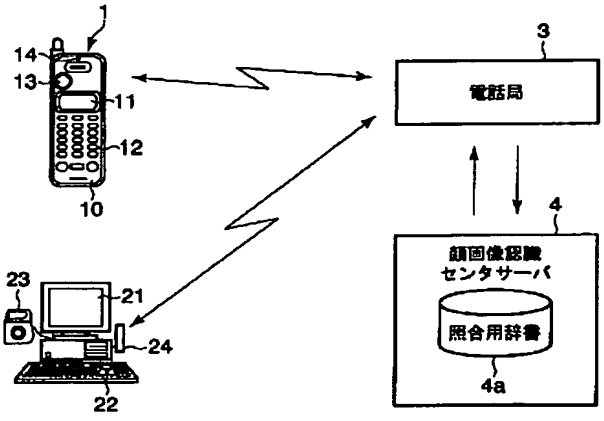
最終頁に続く

(54)【発明の名称】　顔画像認識システム及び顔画像認識方法

(57)【要約】
【課題】　この発明は、利用者が好みのジャンルのなかでどの有名人に最も似ているかを簡単、かつ、客観的に認識することできる。
【解決手段】　この発明は、利用者が指定したジャンルのなかで利用者が撮影した顔画像に最も似ている顔の有名人を判定し、利用者へ提供するようにしたものである。



【特許請求の範囲】
【請求項１】　複数のグループに分類される人の顔の特徴量が予め記憶されている記憶手段と、
利用者の顔画像を撮影する撮影手段と、
この撮影手段により撮影した顔画像との類似度判定の対象とする人のグループを指定する指定手段と、
上記撮影手段により撮影された顔画像と上記記憶手段に記憶されている上記指定手段により指定されたグループに属する全ての人の顔の特徴量との類似度を算出する算出手段と、
この算出手段により算出された類似度に基づいて、上記撮影手段により撮影した顔画像と最も類似している顔の人を判定する判定手段と、
この判定手段により判定した人を案内する案内手段と、
を具備したことを特徴とする顔画像認識システム。
【請求項２】　複数の人の顔の特徴量に対応して種々のデータが予め記憶されている記憶手段と、
利用者の顔画像を撮影する撮影手段と、
この撮影手段により撮影した顔画像との類似度判定の対象とする人の条件を指定する指定手段と、
この指定手段により指定された条件に合致する全ての人を上記記憶手段に記憶されている種々のデータに基づいて選出する選出手段と、
上記撮影手段により撮影された顔画像と上記選出手段により選出した全ての人の顔の特徴量との類似度を算出する算出手段と、
この算出手段により算出された類似度に基づいて、上記撮影手段により撮影した顔画像と最も類似している顔の人を判定する判定手段と、
この判定手段により判定した人を案内する案内手段と、
を具備したことを特徴とする顔画像認識システム。
【請求項３】　利用者が利用可能なユーザ端末と、上記ユーザ端末の通信が可能なサーバ装置とを有する顔画像認識システムにおいて、
上記ユーザ端末は、
利用者の顔画像を撮影する撮影手段と、
この撮影手段により撮影した顔画像との類似度判定の対象とする人のグループを指定する指定手段と、
この指定手段により指定されたグループに属する人のうち上記撮影手段により撮影した顔画像と最も顔が似ていると上記サーバ装置に判定された人を案内する案内手段と、を有し、
上記サーバ装置は、
複数のグループに分類される人の顔の特徴量が予め記憶されている記憶手段と、
上記ユーザ端末の撮影手段により撮影された顔画像と上記記憶手段に記憶されている上記ユーザ端末の指定手段により指定されたグループに属する全ての人の顔の特徴量との類似度を算出する算出手段と、
この算出手段により算出された類似度に基づいて、上記撮影手段により撮影した顔画像と最も類似している顔の人を判定する判定手段と、を有する、
ことを特徴とする顔画像認識システム。
【請求項４】　利用者が利用可能なユーザ端末と、上記ユーザ端末の通信が可能なサーバ装置とを有する顔画像認識システムにおいて、
上記ユーザ端末は、
利用者の顔画像を撮影する撮影手段と、
この撮影手段により撮影した顔画像との類似度判定の対象とする人の条件を指定する指定手段と、
この指定手段により指定された条件に合致する全ての人のうち、上記撮影手段により撮影した顔画像と最も顔が似ていると上記サーバ装置により判定された人を案内する案内手段と、を有し、
上記サーバ装置は、
複数の人の顔の特徴量に対応して種々のデータが予め記憶されている記憶手段と、
上記ユーザ端末の指定手段により指定された条件に合致する全ての人を上記記憶手段に記憶されている種々のデータに基づいて選出する選出手段と、
上記ユーザ端末の撮影手段により撮影された顔画像と上記選出手段により選出した全ての人の顔の特徴量との類似度を算出する算出手段と、
この算出手段により算出された類似度に基づいて、上記撮影手段により撮影した顔画像と最も類似している顔の人を判定する判定手段と、を有する、
ことを特徴とする顔画像認識システム。
【請求項５】　複数のグループに分類される人の顔の特徴量が予め記憶されている記憶手段を有する顔画像認識システムに用いられる顔画像認識方法において、
利用者の顔画像を撮影する撮影工程と、
この撮影工程により撮影した顔画像との類似度判定の対象とする人のグループを指定する指定工程と、
上記撮影工程により撮影された顔画像と上記記憶手段に記憶されている上記指定工程により指定されたグループに属する全ての人の顔の特徴量との類似度を算出する算出工程と、
この算出工程により算出された類似度に基づいて、上記撮影工程により撮影した顔画像と最も類似している顔の人を判定する判定工程と、
この判定工程により判定した人を案内する案内工程と、
を有することを特徴とする顔画像認識方法。
【請求項６】　複数の人の顔の特徴量に対応して種々のデータが予め記憶されている記憶手段を有する顔画像認識システムに用いられる顔画像認識方法において、
利用者の顔画像を撮影する撮影工程と、
この撮影工程により撮影した顔画像との類似度判定の対象とする人の条件を指定する指定工程と、
この指定工程により指定された条件に合致する全ての人を上記記憶手段に記憶されている種々のデータに基づい

て選出する選出工程と、
上記撮影工程により撮影された顔画像と上記選出工程により選出した全ての人の顔の特徴量との類似度を算出する算出工程と、
この算出工程により算出された類似度に基づいて、上記撮影工程により撮影した顔画像と最も類似している顔の人を判定する判定工程と、
この判定工程により判定した人を案内する案内工程と、を有することを特徴とする顔画像認識方法。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】この発明は、顔認識技術を用いて利用者から送られた顔画像と予め登録されている顔画像との類似度を判定する顔画像認識システム及びこの顔画像認識システムに用いられる顔画像認識方法に関する。

【０００２】

【従来の技術】従来、通常の日常会話では、誰がどの有名人（俳優、スポーツ選手、歌手、政治家等）等の人物に似ているかを話題にすることが多い。例えば、電話、手紙等で自分がどのような容貌の人物かを説明する場合、有名人を引き合いにして、自分がどの有名人に似ているかにより、自分の容貌を説明することも多い。このように、自分又は第３者がどの有名人に似ているかを説明する場合、本人又は友人等の人間の判断に基づいて、誰がどのような有名人に似ているかを説明している。

【０００３】しかしながら、誰がどのような有名人に似ているかを人間の感覚で判断する場合、根拠がなく、信頼性が低い。このため、客観的にどのような有名人に似ているかを判定するサービスが要望されている。また、最も似ている有名人が本人の好みに合わない場合、本人の気分を害してしまうことがある。このため、本人の希望に応じて特定のジャンルの有名人の中から本人に最も似ている有名人を判定したり、本人が似ていると思っている有名人とどの程度似ているかを判定するサービスが要望されている。

【０００４】

【発明が解決しようとする課題】上記したように、誰がどのような人物に似ているかは人間の感覚で判断しているため、信頼性が低いので、顔がどのような人物の顔に似ているかを客観的に認識することができるものが要望されているもので、利用者が指定したジャンルの人物のうち、顔がどのような人物の顔に似ているかを客観的に認識することができる顔画像認識システム及び顔画像認識方法を提供することを目的とする。

【０００５】

【課題を解決するための手段】この発明の顔画像認識システムは、複数のグループに分類される人の顔の特徴量が予め記憶されている記憶手段と、利用者の顔画像を撮影する撮影手段と、この撮影手段により撮影した顔画像との類似度判定の対象とする人のグループを指定する指定手段と、上記撮影手段により撮影された顔画像と上記記憶手段に記憶されている上記指定手段により指定されたグループに属する全ての人の顔の特徴量との類似度を算出する算出手段と、この算出手段により算出された類似度に基づいて、上記撮影手段により撮影した顔画像と最も類似している顔の人を判定する判定手段と、この判定手段により判定した人を案内する案内手段とを有する。

【０００６】この発明の顔画像認識システムは、利用者が利用可能なユーザ端末と、上記ユーザ端末の通信が可能なサーバ装置とを有するものにおいて、上記ユーザ端末は、利用者の顔画像を撮影する撮影手段と、この撮影手段により撮影した顔画像との類似度判定の対象とする人のグループを指定する指定手段と、この指定手段により指定されたグループに属する人のうち上記撮影手段により撮影した顔画像と最も顔が似ていると上記サーバ装置に判定された人を案内する案内手段とを有し、上記サーバ装置は、複数のグループに分類される人の顔の特徴量が予め記憶されている記憶手段と、上記ユーザ端末の撮影手段により撮影された顔画像と上記記憶手段に記憶されている上記ユーザ端末の指定手段により指定されたグループに属する全ての人の顔の特徴量との類似度を算出する算出手段と、この算出手段により算出された類似度に基づいて、上記撮影手段により撮影した顔画像と最も類似している顔の人を判定する判定手段とを有する。

【０００７】この発明の顔画像認識方法は、複数のグループに分類される人の顔の特徴量が予め記憶されている記憶手段を有する顔画像認識システムに用いられる方法において、利用者の顔画像を撮影する撮影工程と、この撮影工程により撮影した顔画像との類似度判定の対象とする人のグループを指定する指定工程と、上記撮影工程により撮影された顔画像と上記記憶手段に記憶されている上記指定工程により指定されたグループに属する全ての人の顔の特徴量との類似度を算出する算出工程と、この算出工程により算出された類似度に基づいて、上記撮影工程により撮影した顔画像と最も類似している顔の人を判定する判定工程と、この判定工程により判定した人を案内する案内工程とを有する。

【０００８】

【発明の実施の形態】以下、この発明の実施の形態について図面を参照して説明する。図１は、顔画像認識システム全体の構成を概略的に示す図である。図１に示すように、顔画像認識システムは、携帯端末（ユーザ端末）１、パーソナルコンピュータ（ユーザ端末）２、電話局３、及び顔画像認識センタサーバ（サーバ装置）４から構成される。上記携帯端末１及びパーソナルコンピュータ２は、電話局３を介して顔画像認識センタサーバ４との通信が可能となっている。上記顔画像認識センタサーバ４は、有名人等の顔の特徴量が記憶されているデータ

ベースとしての照合用辞書４ａを有している。

【０００９】上記携帯端末１は、携帯電話等の携帯可能な端末機器により構成される。上記携帯端末１は、携帯端末本体１０内に設けられている図示しない制御部により全体が制御される。また、この携帯端末１は、図１に示すように、携帯端末本体１０に、表示部１１、操作部１２、カメラ１３、及びアンテナ１４等が設けられている。上記表示部１１は、液晶表示装置等により構成される。この表示部１１には、利用者に対する操作案内などが表示される。上記操作部１２は、テンキー等のキーにより構成される。この操作部１２では、動作モードの設定、送信先の電話番号等の情報を利用者が入力するものである。また、上記カメラ１３は、デジタルカメラ等により構成される。上記カメラ１３では、利用者などの顔画像を撮影する。上記アンテナ１４は、上記電話局３を介して上記顔画像認識センタサーバとの通信を行う際に、上記電話局３との無線データの送受信を行うものである。

【００１０】上記パーソナルコンピュータ２は、本体２０内に、ＲＡＭ、ＲＯＭ、ＨＤＤ等のメモリ、種々の処理部、及びＣＰＵ等により構成される制御部が設けられている。このパーソナルコンピュータ２は、本体２０内に設けられている図示しない制御部により全体が制御される。また、このパーソナルコンピュータ２は、図１に示すように、本体２０に、表示部２１、操作部２２、カメラ２３、及びモデム２４等が接続されている。上記表示部２１は、ブラウン管ディスプレイ装置、あるいは液晶表示装置等により構成される。この表示部２１には、利用者に対する操作案内などが表示される。上記操作部２２は、キーボードあるいはマウス等により構成される。この操作部２２では、動作モードの設定などを利用者が入力するものである。また、上記カメラ２３は、デジタルカメラ等により構成される。上記カメラ２３では、利用者などの顔画像を撮影するものである。上記モデム２４は、公衆回線、及び上記電話局３を介して上記顔画像認識センタサーバ４との通信を行うものである。

【００１１】次に、上記顔画像認識センタサーバ４の概略構成について説明する。図２は、上記顔画像認識センタサーバ４の概略構成を示すブロック図である。図２に示すように、上記顔画像認識センタサーバ４は、主制御部３１、記憶部３２、通信インターフェース３３、類似度算出部３４、及び照合用辞書４ａを有している。上記主制御部３１は、顔画像認識センタサーバ４全体の制御を司るものである。上記記憶部３２は、制御プログラム等が記憶されるメモリ及び作業用のデータを一時的に記憶するメモリなどから構成される。上記通信インターフェース３３は、上記電話局３を介して上記携帯端末１あるいは上記パーソナルコンピュータ２との通信を行うインターフェースである。上記類似度算出部３４は、上記携帯端末１あるいはパーソナルコンピュータ２から供給された顔画像と、予め上記照合用辞書に顔の特徴量が登録されている顔画像との類似度の算出処理を行うものである。上記照合用辞書４ａは、複数の有名人などの人物に対する顔の特徴量が予め登録されている記憶部である。また、上記照合用辞書４ａには、顔の特徴量が当該有名人のジャンル（グループ）ごとに分類されて記憶されている。

【００１２】図３は、上記照合用辞書４ａの構成例を示す図である。図３に示す例では、照合用辞書４ａ内にジャンルごとに作成された複数の辞書が記憶されている。例えば、図３では、１０代の歌手の顔データを記憶した辞書、１０代の女優の顔データを記憶した辞書、世界の美女の顔データを記憶した辞書、１０代の野球選手の顔データを記憶した辞書、１０代のサッカー選手の顔データを記憶した辞書などが照合用辞書４ａに記憶されている。このように、ジャンルごとに辞書を作成した場合、顔データの照合時には、利用者に選択されたジャンルに対応する辞書を選択し、利用者が撮影した顔画像との照合を行う。

【００１３】また、図３に示す例では、ジャンルごとに辞書を作成する場合について説明したが、顔データの照合時に、利用者に選択されたジャンルを検索条件として、照合用辞書４ａ内を検索し、ジャンルに属する有名人をその都度選出するようにしても良い。この場合、照合用辞書４ａには、各有名人の顔データに対応して各有名人に関する種々のデータ（例えば、氏名、性別、年齢、出身地、活動分野、所属グループ（チーム）名等）を記憶しておき、類似度判定の際には利用者が指定する種々の条件に基づいて条件に一致する全ての有名人を選出するようにする。これにより、ジャンルごとに複数の辞書を作成する必要がなく、利用者は種々の条件の組み合わせでジャンルを指定できる。

【００１４】次に、上記のように構成される顔画像認識システムの動作について説明する。図４は、携帯端末１あるいはパーソナルコンピュータ２で撮影された顔と上記照合用辞書４ａに顔の特徴量が記憶されいる有名人の顔との類似度を判定し、最も類似度の高い有名人を携帯端末１あるいはパーソナルコンピュータ２に通知する動作を説明するためのフローチャートである。図４では、顔を撮影した後に、照合対象する有名人のジャンルを利用者が指定する場合の動作を示している。ここでは、携帯端末１を利用する場合について説明するが、パーソナルコンピュータ２を利用する場合についても同様である。

【００１５】まず、利用者は、カメラ１３にて顔画像を撮影する（ステップＳ１）。撮影した画像は、携帯端末本体内に取込まれる。携帯端末１の制御部は、取込んだ画像から顔画像を抽出する処理（顔画像の抽出処理）を行う（ステップＳ２～Ｓ４）。ここでは、カメラ１３が連続的に画像を撮影するものとする。

【００１６】この場合、携帯端末１の制御部は、連続的に撮影された画像から移動体を検知する（ステップＳ２）。移動体は、前に読み込んだ画像と次に読み込んだ画像との差、つまり、前後の画像の差を取ることにより検知される。移動体を検知すると、携帯端末１の制御部は、検知した移動体が所定の大きさを有しているか否かを判断する（ステップＳ３）。この判断により検知した移動体が所定の大きさである場合、携帯端末１の制御部は、移動体の画像から人物の顔らしい部分を検出することにより顔画像を抽出する（ステップＳ４）。また、検知した移動体が所定の大きさを有していない場合、あるいは、顔画像が抽出できなかった場合、携帯端末１の制御部は、上記ステップＳ１へ戻り、顔画像の抽出処理を再度実行する。

【００１７】上記抽出処理により顔画像が抽出されると、携帯端末１の制御部は、類似度判定の対象する有名人の属するジャンルを選択する（ステップＳ５）。このジャンルの選択は、上記表示部１１にされる選択画面に基づいて利用者の操作部１２による操作にて決定される。

【００１８】例えば、利用者がジャンルとしてプロ野球選手を指定する場合、さらに、利用者がプロ野球選手のなかでも好きな球団を選択することができるようになっていうる。これにより、プロ野球選手のなかでも利用者が嫌いな球団の選手と似ているというような結果が利用者に提供されることがなく、利用者の要望に沿った範囲で似ている有名人を通知することが可能となる。

【００１９】上記のようにジャンルを選択した利用者は、抽出された顔画像及び選択されたジャンルを確認し、送信要求を指示する。これにより、携帯端末１の制御部は、選択されたジャンルと抽出された顔画像とを顔画像認識センタサーバ４へ送信する（ステップＳ６）。

【００２０】顔画像認識センタサーバ４の主制御部３１は、上記携帯端末１からのジャンルを示す情報と顔画像とを受信すると（ステップＳ７）、受信した顔画像から顔の特徴量（顔データ）を抽出する（ステップＳ８）。また、主制御部３１は、上記携帯端末１から受信したジャンルに属する有名人の顔データを上記照合用辞書４ａから選出する（ステップＳ９）。ここで、上記照合用辞書４ａ内に利用者が選択したジャンルに対応する辞書が設けられている場合、主制御部３１は、利用者が選択したジャンルに対応する辞書を照合対象の辞書として選出する。

【００２１】上記携帯端末１から受信した顔画像から顔データを抽出し、かつ、受信したジャンルの有名人の顔データを上記照合用辞書４ａから選出した場合、主制御部３１は、受信した顔画像から抽出した顔データと照合用辞書４ａから選出した全ての有名人の顔データとの類似度を算出する処理（類似度算出処理）を行う（ステップＳ１０）。

【００２２】この類似度算出処理により当該ジャンルの全ての有名人に対する類似度を算出すると、主制御部３１は、最大の類似度となった有名人を判定する（ステップＳ１１）。この判定により、当該ジャンルのなかで上記携帯端末１で撮影した顔画像に最も似ている顔の有名人が判定される。この判定結果は、当該携帯端末１へ送信される（ステップＳ１２）。

【００２３】この判定結果を受信した際（ステップＳ１３）、当該携帯端末１の制御部は、受信した有名人を示す情報を、撮影した顔画像に最も顔が似ている有名人として、表示部１１に表示する（ステップＳ１４）。これにより、利用者は、選択したジャンルの有名人で最も似ている有名人が誰かを認識できる。

【００２４】また、上記図４に示す動作例では、顔画像を撮影してからジャンルを選択するようにしたが、ジャンルの選択を先に行ってから、顔画像を撮影し、照合を行うようにしても良い。また、上記ステップＳ１４で判定結果が表示された際に、利用者が続けて他のジャンルを選択することにより、他のジャンルで最も似ている有名人を判定するようにしても良い。この場合、撮影済みの顔画像を用いて類似度判定を行うようにしても良いし、新たに顔画像を取り直して類似度判定を行うようにしても良い。

【００２５】また、図４に示す動作例では、利用者が撮影した顔画像が利用者が指定したジャンルの有名人の顔に最も似ているかを判定結果として利用者に提供するようにしたが、利用者が撮影した顔画像が特定の有名人にどれだけ似ているかを判定結果として利用に提供するようにしても良い。この場合、ジャンル選択の際、利用者は、ジャンルではなく、特定の有名人を指定する。これに対して、顔画像認識センタサーバ４では、利用者が撮影した顔画像と利用者が指定した有名人の顔の特徴量との類似度を算出し、算出した類似度を百分率等のデータで利用者に提供するようにする。これにより、利用者は、撮影した顔画像が特定の有名人とどれだけ似ているかを客観的に認識することが可能となる。

【００２６】上記のように、本実施の形態では、利用者が指定したジャンルのなかで利用者が撮影した顔画像に最も似ている顔の有名人を判定し、利用者へ提供するようにしたものである。これにより、利用者が好みのジャンルのなかでどの有名人に最も似ているかを簡単、かつ、客観的に認識することできる。また、利用者がジャンルを指定することで、利用者が望まないジャンルの有名人にしているという判定結果が利用者に提供させることがないため、利用者の要望に沿った範囲の内で似ている有名人を提供することができる。

【００２７】

【発明の効果】以上詳述したように、この発明によれば、利用者が指定したジャンルの人物のうち、撮影した顔がどのような人物の顔に似ているかを客観的に認識す

ることができる顔画像認識システム及び顔画像認識方法を提供できる。

【図面の簡単な説明】

【図１】この発明の実施の形態に係る顔画像認識システムの概略構成を示す図。

【図２】図１の顔画像認識センタサーバの概略構成を示すブロック図。

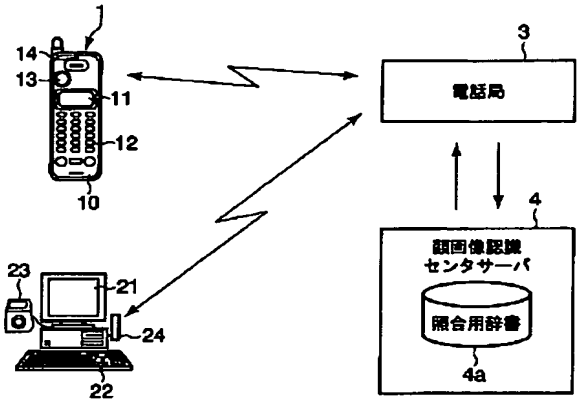
【図３】顔画像認識センタサーバ内の照合用辞書の構成例を示す図。

【図４】この顔画像認識システムの動作を説明するためのフローチャート。

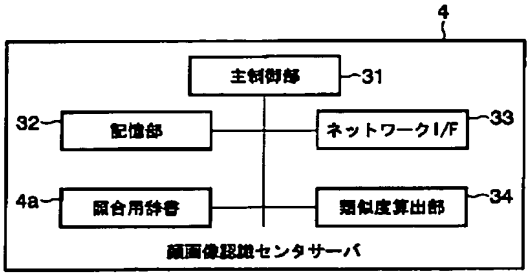
【符号の説明】

１…携帯端末（ユーザ端末）、２…パーソナルコンピュータ（ユーザ端末）、３…電話局、４…顔画像認識センタサーバ（サーバ装置）、４ａ…照合用辞書（記憶手段）、１１、２１…表示部（案内手段）、１２、２２…操作部（指定手段）、１３、２３…カメラ（撮影手段）、３１…主制御部（判定手段、選出手段）、３２…記憶部、３３…通信インターフェース、３４…類似度算出部（算出手段）

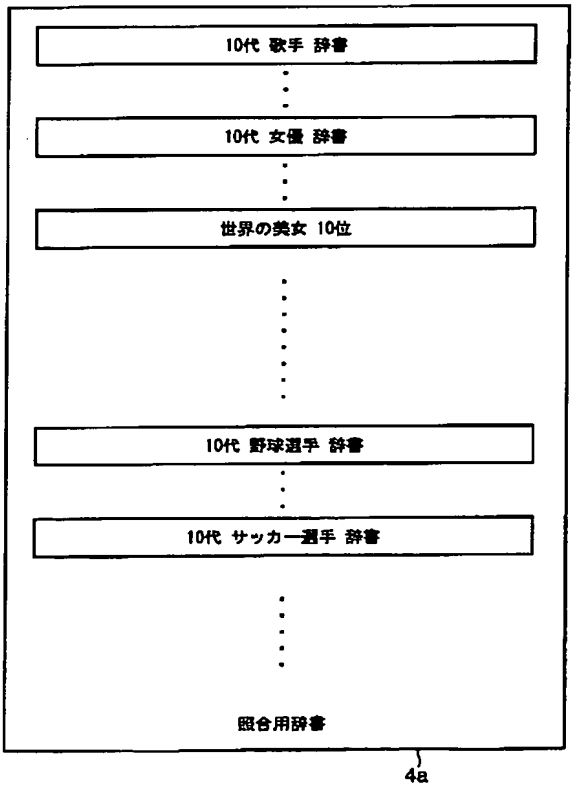
【図１】



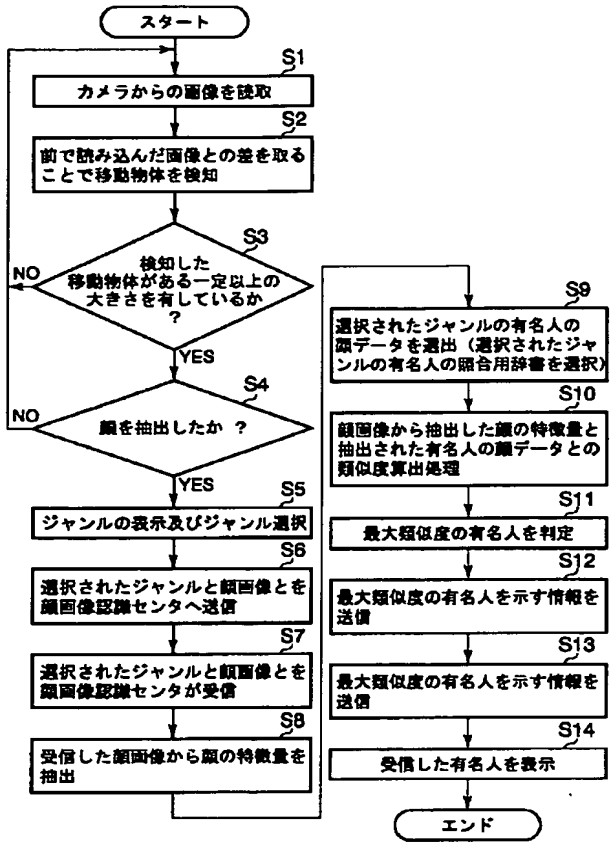
【図２】



【図３】



【図4】



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